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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,100	07/06/2004	Katsuo Sugahara	09852/0201465-US0	5559

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EXAMINER	
ALEXANDER, MICHAEL P	
ART UNIT	**PAPER NUMBER**
1742	

DATE MAILED: 10/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/501,100	SUGAHARA, KATSUO	
	Examiner	Art Unit	
	Michael P. Alexander	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6 July 2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 9-256087.

Regarding claim 1-2, JP 9-256087 teaches (0006) a nickel based alloy inherently having excellent corrosion resistance relative to supercritical water environments containing inorganic acids comprising: Cr: 38-50%; Mo: 0.1-2%; Mg: 0.001-0.1%; Mn: 0.01-1.0%; and a remainder as nickel and unavoidable impurities, wherein a quantity of C amongst said unavoidable impurities is restricted to 0.001-0.05%, further comprising Si of less than 0.1%. JP 9-256087 further teaches (0003) that the alloy would contain 0.04% or less of N as an impurity. The composition of JP 9-256087 overlaps that of the claimed invention, which is prima facie evidence of obviousness. See MPEP 2144.05 I.

It would have been obvious to one of ordinary skill in the art to select the claimed composition from the compositional ranges disclosed by JP 9-256087 because JP 9-256087 teaches the same utility throughout the claimed range.

Regarding claim 3, JP 9-256087 teaches (0001-0004) the use of the alloy in a waste heat boiler, which the Examiner asserts would be a member for a supercritical water process reaction apparatus.

Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 8-103867.

Regarding claims 4-7, JP 8-103867 teaches (0005) a nickel based alloy inherently having excellent corrosion resistance relative to supercritical water environments containing inorganic acids comprising: Cr: 15-35%; Ta: up to 4%; Mg: up to 0.1%, N: up to 0.1%; Mn: up to 3%, and a remainder as Ni and unavoidable impurities, wherein a quantity of C amongst said unavoidable impurities is restricted to up to 0.1%, and further comprising Mo: 1-20% and Si: up to 3%. The composition of JP 8-103867 overlaps that of the claimed invention, which is prima facie evidence of obviousness. See MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art to select the claimed composition from the compositional ranges disclosed by JP 8-103867 because JP 8-103867 teaches the same utility throughout the claimed range.

Regarding claim 8, JP 8-103867 teaches (0001-0003) the use of the alloy in a heat exchanger tube of a boiler using the incineration of waste, which the Examiner asserts would be a member for a supercritical water process reaction apparatus.

Claims 9, 11-12, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 9-256087.

Regarding claims 9, 11-12 and 15, JP 9-256087 teaches (0006) a nickel based alloy inherently having excellent corrosion resistance relative to supercritical water environments containing inorganic acids comprising: Cr: 38-50%; W: 0.1-2%; Mg: 0.001-0.1%; Mn: 0.01-1.0%; and a remainder as nickel and unavoidable impurities, wherein a quantity of C amongst said unavoidable impurities is restricted to 0.001-0.05%, and further comprising Si of less than 0.1% and Hf: 0.001-0.5%. JP 9-256087 further teaches (0003) that the alloy would contain 0.04% or less of N as an impurity. The composition of JP 9-256087 overlaps that of the claimed invention, which is prima facie evidence of obviousness. See MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art to select the claimed composition from the compositional ranges disclosed by JP 9-256087 because JP 9-256087 teaches the same utility throughout the claimed range.

Regarding claim 17, JP 9-256087 teaches (0001-0004) the use of the alloy in a waste heat boiler, which the Examiner asserts would be a member for a supercritical water process reaction apparatus.

Claims 10, 13-14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 9-256087 as applied to claim 9 above, and further in view of Hoeg (US 5,958,332).

Regarding claims 10, 13-14 and 16, JP 9-256087 does not specify that the alloy would contain from 1.0% to 6% of Nb. However, Hoeg teaches (col. 6 lines 23-30)

adding 1-2% Nb to an alloy having a similar composition in order to harden the alloy. It would have been obvious to one of ordinary skill in the art to modify the composition of JP 9-256087 by adding 1-2% Nb in order to harden the alloy as taught by Hoeg.

Claims 18-19, 21, 23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 8-103867.

Regarding claims 18-19, 21 and 23, JP 8-103867 teaches (0005) a nickel based alloy inherently having excellent corrosion resistance relative to supercritical water environments containing inorganic acids comprising: Cr: 15-35%; W: up to 4%; Mg: up to 0.1%, N: up to 0.1%; Mn: up to 3%, and a remainder as Ni and unavoidable impurities, wherein a quantity of C amongst said unavoidable impurities is restricted to up to 0.1%, and further comprising Nb: up to 4% and Si: up to 3%. The composition of JP 8-103867 overlaps that of the claimed invention, which is prima facie evidence of obviousness. See MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art to select the claimed composition from the compositional ranges disclosed by JP 8-103867 because JP 8-103867 teaches the same utility throughout the claimed range.

Regarding claim 26, JP 8-103867 teaches (0001-0003) the use of the alloy in a heat exchanger tube of a boiler using the incineration of waste, which the Examiner asserts would be a member for a supercritical water process reaction apparatus.

Claims 20, 22 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 8-103867 as applied to claim 18 above, and further in view of Smith et al. (US 6,761,854 B1).

Regarding claims 20, 22 and 24-25, JP 8-103867 do not specify that the alloy would contain Hf: 0.01 to 0.1%. However, Smith et al. teach (col. 2 lines 45-51) adding up to 0.1% Hf to an alloy having a similar composition in order to improve oxidation resistance. It would have been obvious to one of ordinary skill in the art to modify the composition of JP 8-103867 by adding up to 0.1% Hf in order to improve oxidation resistance.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Alexander whose telephone number is 571-272-8558. The examiner can normally be reached on M-F 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mpa

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